STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: ***JIVE SORTS*** *Agreement #:****30-084762***

2. Name of applicant: **Washington State Department of Natural Resources**

3. Address and phone number of applicant and contact person:
   Pacific Cascade Region
   601 Bond Road
   PO Box 280
   Castle Rock, WA 98611-0280
   Phone: (360) 577-2025
   Contact Person: Marcus Johns

4. Date checklist prepared: **07/22/2009**

5. Agency requesting checklist: **Washington State Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

   a. *Auction Date:***03/25/2010**
   b. *Planned contract end date (but may be extended):***06/30/2010**
   c. *Phasing:* **N/A**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Timber Sale

   a. *Site preparation:* **Slash piles may be burned, as well as, chemical site preparation to provide plantable spots and to make certain adequate regeneration occurs.**

   b. *Regeneration Method:* **Unit will be planted with Douglas-fir seedlings. Small amounts of other native conifer species may be planted if available. Some natural regeneration may occur on site.**

   c. *Vegetation Management:* **Treatment of competing vegetation, as needed, in accordance with Forest Practices rules and the Habitat Conservation Plan (HCP, 1997).**

   d. *Thinning:* **May occur approximately 15-20 years of age to manage stand stocking levels in accordance with FMU objectives and threshold targets.**

Roads: **Any roads remaining after termination of the harvest will be used for future management activities. Maintenance and periodic ditch cleanout will occur as needed.**

Rock Pits and/or Sale: **Rock associated with this project will be from a commercial source.**

Other: **Firewood permits may be made available to the public after cessation of harvesting activities if down wood is plentiful near roadsides and/or landings.**

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☒*303 (d) – listed water body in WAU:* ☐*temp* ☐*sediment* ☒*completed TMDL (total maximum daily load):*

The Chehalis River near Centralia is listed for dioxins and PCB's. There are no other 303(d) listed waters in the Lincoln Creek WAU.

☐*Landscape plan:*
☐*Watershed analysis:*
☐*Interdisciplinary team (ID Team) report:*
☒*Road design plan:* **Plan available at the Pacific Cascade Region Office**
☐*Wildlife report:*
☐*Geotechnical report:*
☐*Other specialist report(s):*
☐*Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☐*Rock pit plan:*
☒*Other:* **Spotted Owl Habitat Mapping, Forest Practices Activity Maps, WAU Map for Rain-On-Snow areas, Policy for Sustainable Forests (PSF 2006); State Soil Survey; Habitat Conservation Plan (HCP 1997); HCP Checklist; Riparian Forest Restoration Strategy (RFRS), Slope Stability Checklist; Planning and Tracking Specials Concerns Report and associated maps; Road Maintenance and Abandonment Plan (RMAP): #R2900196, Weighted Old Growth Habitat Index (WOGHI); South Coast Planning Unit Marbled Murrelet Habitat Reclassification Map (1999); Columbia Planning Unit Marbled Murrelet Reclassification Map; DNR GIS databases. All available upon request at the Pacific Cascade Region Office.**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. **None known.**

10. List any government approvals or permits that will be needed for your proposal, if known.

☒*HPA* ☒*Burning permit* ☐*Shoreline permit* ☒*Incidental take permit* ***1168 & PRT 8125121*** ☒*FPA#* **2920301** ☐*Other:*

Potential tailholds across type 'S' and/or 'F' streams will be implemented in accordance to the 10-year blanket HPA signed by the Washington Departmen of Fish and Wildlife on September 29, 2005 (Control #103081-1). This HPA only allows for tailholds, and not for yarding or cutting within these buffers.

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. *Complete proposal description:*

This proposal consists of one timber sale unit of approximately 39 acres. This will be a variable retention harvest of approximately 1400 MBF with a minimum of 8 trees per acre remaining on site. This proposal lies entirely within the Lincoln Creek WAU in the Washington Department of Natural Resource's Deep Creek Block in Lewis County: Township 14 North, Range 03 West, Sections 9 and 16. Within the unit there is approximately 993 feet of optional road construction with about 473 feet of optional reconstruction. On the D-5300 there will be approximately 9542 feet of required pre-haul maintenance. Topography within the unit is mostly flat with some steeper areas 40-70% with the steep areas along streams and within the protected Riparian Management Zones.

Unit	Proposal Acres	RMZ/WMZ Acres	Unstable Slope Acres	Existing Road Acres	Sale Acres	Leave Tree Clump Acres	Internal Road R/W Acres	Harvest Acres
name	*gross*			*within unit*	**8=leave trees*	*clumped acres*	*for thins*	*net*
1	55	11	2	1	41	2	N/A	39

b. *Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.*

This proposal is approximately 39 acres with a hardwood component of about 50% and conifer content of about 50%. The conifer component is mostly Douglas-fir with a small amount of red cedar, while the hardwood component is red alder and bigleaf maple. The origin year of this stand is 1945 (64 years old) with some younger alder near the roads. The understory consists of heavy amounts of salal, Oregon grape and sword fern with some devils club in the draws and wetter areas.

Type of Harvest: Variable retention harvest approximately 1400 MBF will be removed with a mixture of cable and ground systems to be used.

Overall Unit Objectives:

1) **The primary objective of this timber sale is to provide financial benefit to the trust beneficiaries and regenerate a new forest. The area will be managed for continued upland forest resource management.**
2) **Comply with internal procedures derived from the Forest Practices rules, Policy for Sustainable Forests and the Habitat Conservation Plan.**
3) **Maintain water quality and fish habitat, retain legacy trees and minimize impacts to soils.**

c. *Road activity summary. See also forest practice application (FPA) for maps and more details.*

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		993	.7	0
Reconstruction		473		0
Abandonment				0
Bridge Install/Replace				
Culvert Install/Replace (fish)				
Culvert Install/Replace (no fish)				

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map available at DNR region office, and/or color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description:

T14N R3W S9
T14N R3W S16

b. *Distance and direction from nearest town (include road names):*

The proposal is approximately 4 miles to the west of Centralia. From I-5 turn west onto Cooks Hill Road to the D-5000. Travel through the gate and continue on the D-5000 to the D-5000/D-3000 intersection. Continue on D-5000 (south) to the D-5300. Turn left (south/southwest) on the D-5300 to the unit.

c. *Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")*

WAU Name	WAU Acres	Proposal Acres
LINCOLN CREEK	33096.9	41
Sub-Basin 16	2107.4	41

13. *Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)*

This proposal is located within the Lincoln Creek WAU. Agriculture and home sites are located in the valleys near the major streams with some home sites located in the uplands. The uplands are primarily managed for timber production. Ownership includes large industrial forests, small private forests, and DNR managed forests. Forest stands within this WAU appear to be almost exclusively second and third growth stands. A 1990 aerial photo indicates that many of the stands on private lands within these WAU's were regeneration harvested in the 1970's and 1980's. The number of Forest Practices shown on the WAU maps (referenced above on the DNR website), along with observations within these WAU's, indicates that the remaining second growth timber stands are intensively managed. Management includes regeneration harvests, thinning, and partial cuts. Mitigation elements within the WAU for the future will involve a minimum 100 foot buffer on all type 4 streams and type 3 streams will have a site index buffer, in the case of the Jive proposal this is 195 feet. In addition timbersales will also have a minimum 8 trees per acre left onsite as legacy trees.

The following tables are an estimated summary of past and future activity on DNR-managed land and privately managed land in the Lincoln Creek WAU (information is based off of Forest Practices applications that have been approved in the last seven years compiled by the Department's GIS database). No attempt was made to predict future timber harvest on private ownerships within these WAU's. The source of this information only provided the acreage on the WAU level.

WAU	DNR Ownership (acres)	Total Acres	Rainfall Average per Year (in.)	Rain-on-snow (%)	DNR Roads (Miles)	Miles per Square Mile	Private Roads (Miles)	Miles per Square Mile
Lincoln Creek	11,721	33,097	50	3.2	71.3	1.4	145.3	2.8

Lincoln Creek	WAU Acres	Acres of Even-Aged Harvest Within the Last Seven Years	Acres of Uneven-Aged Harvest Within The Last Seven Years	Proposed Even-Aged Harvest In The Future	Proposed Uneven-Aged Harvest In The Future
DNR Managed Land	11721 (35.4%)	3587	1089	1273	0
Private Ownership	21376 (64.6%)	33	Unknown	Unknown	Unknown
Total	**33097**	**3620**			

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☒Rolling, ☐Hilly, ☐Steep Slopes, ☐Mountainous, ☐Other:

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).

The landforms within the Lincoln Creek WAU are generally hilly with some steep slopes. Elevation changes from a minimum of 124 feet to a maximum of 2484 feet. The average precipitation is 50 inches per year with a minimum of 35 inches to a maximum of 80 inches per year. Major timber type is Douglas fir with red alder and smaller amounts of bigleaf maple and western red cedar.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).

The proposal resembles the the description above.

b. What is the steepest slope on the site (approximate percent slope)?

70%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture or Soil Complex Name	% Slope	Acres	Mass Wasting Potential	Erosion Potential
4714	LOAM	15-30	23	INSIGNIFIC'T	MEDIUM
0650	SILT LOAM	30-65*	18	MEDIUM	MEDIUM
6649	SLT.CLY.LOAM	0-3	<1	INSIGNIFIC'T	LOW

***Portions of the proposal do contain steeper slopes (70%), though these are very limited in their scope.**

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Yes

1) Surface indications:

Within the south corner of the unit there is evidence of an active landslide. Cracks on the surface of the soil combined with bare mineral soil shows that it is slowly moving.

2) Is there evidence of natural slope failures in the sub-basin(s)?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

There are indicators of deep seated failures in hollows in the sub-basins These are generally associated with slopes greater than 60% within hollows that extend up to the mid-slope and occur most often within the Riparian Management Zones (RMZ), lower slopes of the main draws and headwalls at the top of steep draws.

3) Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*
Associated management activity:

The Lincoln Creek WAU shows evidence of shallow mid-slope failures associated with poorly built or maintained roads and some inner gorge failures.

4) Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?
☐*No* ☒*Yes, describe similarities between the conditions and activities on these sites:*

Some similarities exist, but these areas are within the RMZ's and will not be logged. The similarities are some short slopes over 60% near type 3 streams. Other areas have had leave trees placed on them to protect resources.

5) Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.

A site visit with the geologist to the slide in the south portion of the unit was conducted. Mitigation techniques included bounding the slide area out of the sale and an inclusion of leave trees approximately

1- acre in size downslope of the slide to prevent possible sediment entering streams. Additionally, a crown width buffer of trees has been left around the top and sides of the slide area. The boundary around this area is very heavily marked with pink flagging. Roads were located on ridge-tops to minimize disturbance to type 5 streams and headwall areas. Ground disturbance will be minimized by limiting the operation of ground-based harvesting equipment to slopes less than 35 percent and by requiring lead end suspension on cable settings.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: **.7** *Approx. acreage new landings:* **2** *Fill source:* **Native Material**

Grading will occur for new road construction and improvement of proposed haul route. Filling will occur over new culvert installations during road construction. Material will be 4 inch rock, ballast, and surface rock, all of which will come from a commercial rock source.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, minimal erosion may occur as the result of road construction, road use, and logging operations.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

Less than 1% will be covered by impervious surfaces in the form of gravel roads.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

Measures to reduce erosion on roads or during active road construction

- **Soils exposed during road construction may be grass seeded.**
- **Roads will either be crowned, ditched, and cross-drained; or out-sloped.**
- **Cross-drains will be installed properly and maintained.**
- **Sediment delivery will be addressed as needed during operations and may include the use of water bars or silt traps.**
- **There will be periodic maintenance and inspection of the road system to insure proper drainage.**
- **Optional roads and landings constructed with the proposal may be abandoned after harvest.**

Measures to reduce erosion during active logging operation:

- **Timber shall be felled and yarded away from all streams.**
- **Ground-based yarding will be restricted to slopes less than 35%.**
- **Full suspension when yarding over type 5 streams.**
- **The lead-end of logs will be suspended during all yarding operations.**
- **The potential for sediment delivery will be addressed as needed during operations and may include the use of water bars or silt traps.**

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling*, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Minimal amounts of engine exhaust and dust from logging equipment, log trucks, and automobile exhaust will be emitted as a result of this proposal. If slash is burned, smoke will be emitted into the air.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Piled logging slash, if burned, will be burned in accordance with the State's Smoke Management Program.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map available at DNR region office, or forest practice application base maps.)*

Yes, there are five Type 5 streams, three type 3 streams, and one Type 4 stream. All streams are tributaries to Scammon Creek.

a) Downstream water bodies:

The streams flow into Scammon Creek which eventually flows into the Chehalis River.

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Scammon Creek	3	1	195
Unnamed Type 3	3	2	195
Unnamed Type 4	4	1	100
Unnamed Type 5	5	4	0

c) *List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.*

Approximately 11 acres of RMZs averaging 195 feet wide along Scammon Creek and two other type 3 streams, and a minimum 100 feet wide along one type 4 stream, were left. All have been bounded out of the harvest area. A 30-foot Equipment Limitation Zone will be utilized along all type 5 streams as stated in the Forest Practices rules. There are no wind buffers as the unit is well protected and on the leeward slope.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map available at DNR region office.)*
Description (include culverts):

Tail hold cables may hang across two type 3 streams, one type 4 stream, and four type 5 streams. Harvesting and yarding will occur approximately 195 feet away from five type 3 streams. Harvesting and yarding will occur 100 feet from two type 4 streams. A 30-foot Equipment Limitation Zone will be utilized along all type 5 streams as stated in the Forest Practices rules.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None. There will be two culverts installed, but they are not associated with live water.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*
☒*No* ☐*Yes, description:*

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒*No* ☐*Yes, type and volume:*

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

Soil maps of the Lincoln Creek WAU indicate that approximately 2.5% of the WAUs sub-basins contains highly erodible soils and/or soils susceptible to mass wasting. However, 82% of the WAU contains soils with medium erosion potential. Eroded material currently enters the streams during moderate to high flows and a noticeable increase in stream turbidity can be observed. The increased turbidity can be observed in streams originating in mature stands with no forest practice activity. The potential for eroded material to enter surface water as a result of this proposal is low due to the erosion control measures being included in the proposal (See B.1.h. and B.1.d.5).

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?
☐*No* ☒*Yes, describe changes and possible causes:*

Historically, large areas of the landscape were harvested within a short period of time. This harvest activity may have previously increased surface erosion and mass wasting events within the WAU. These events may have caused changes to the stream channels such as accelerated aggradations, erosion, channel dimensions and channel movement over time.

9) Could this proposal affect water quality based on the answers to the questions 1-8 above?
☐*No* ☒*Yes, explain:*

This proposal is expected to have minimal to no effect on water quality. Items listed in B.1.h and B.3.d will minimize potential sediment delivery to streams. These mitigation elements should limit effects on water quality in relation to the items of concern listed in questions 1 to 8.

10) What are the approximate road miles per square mile in the WAU and sub-basin(s)? **2.1**
Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☒*No* ☐*Yes, describe:*

An average of 2.1 miles of road per square mile in the Lincoln Creek WAU.

11) Is the proposal within a significant rain-on-snow (ROS) zone? If not, ***STOP HERE*** *and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☒*No* ☐*Yes, approximate percent of WAU in significant ROS zone.*
Approximate percent of sub-basin(s):

12) If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?

13) Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?
☐*No* ☒*Yes, describe observations:*

Noticeable changes in channels appear to be primarily associated with sediment aggradation and stream channelization in the lower reaches of some streams. Many of these changes occurred during the large winter storms of 2007 and 2009.

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

This proposal may slightly change the timing, duration and amount of peak flow event. Flow rates may increase slightly during low flow periods due to decreased transpiration and interception.

15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☒*No* ☐*Yes, possible impacts:*

16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

The following measures will address possible peak flow/flooding impacts:

1. **Utilizing existing grades and forest roads.**
2. **Limiting future harvest unit sizes to less than 100 acres and following the 2006 Policy for Sustainable Forests green-up policies before harvesting adjacent DNR stands.**
3. **Designating average RMZs 195 feet wide along three type 3 streams.**
4. **Designating a minimum RMZ 100 feet wide along one type 4 stream.**
5. **Retaining a minimum eight leave trees per acre throughout the proposal.**
6. **Large leave tree island to protect Scammon Creek as well as an unstable slope.**
7. **A 30-foot equipment limitation zone on all type 5 streams.**

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Insignificant amounts of oil and other lubricants could be discharged inadvertently as a result of heavy equipment use. All spills are required to be contained and cleaned-up.

3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*
☒*No* ☐*Yes, describe:*

a) *Note protection measures, if any.*

See 3.a.1.c and 3.a.16

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Storm water runoff will be collected by road ditches and diverted through cross-drain culverts and ditchouts onto the forest floor.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No.

a) *Note protection measures, if any.*

Equipment use will be limited along streams in accordance with Forest Practices regulations. No lubricants will be disposed of onsite. See 3.a.1.c.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☒maple, ☐aspen, ☐*cottonwood,* ☐*western larch,* ☐*birch,* ☐other:
☒evergreen tree: ☒*Douglas fir,* ☐*grand fir,* ☐*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☐*Sitka spruce,* ☒*red cedar,* ☐*yellow cedar,* ☐other:
☒shrubs: ☒*huckleberry,* ☒*salmonberry,* ☒*salal,* ☒*other:* **Oregon grape**
☐grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☐skunk cabbage, ☒*devil's club,* ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:

☐other types of vegetation:
☐*plant communities of concern:*

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

Approximately 1400 MBF of Douglas-fir, red alder and smaller components of western red cedar, western hemlock and bigleaf maple will be removed. The age of the timber is approximately 64 years old.

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")

The land to the east is privately owned 15 year old Douglas fir stand. To the north is a state owned Douglas fir plantation approximately 14 years old. To the west is a state owned Douglas fir plantation approximately 14 years old. To the south is a 58 year old Douglas fir stand.

2) Retention tree plan:

One clump of approximately one acre was left just downslope of the potential slide area in the southeast corner of the unit. This was left to provide extra protection measures for Scammon Creek at the bottom of the slope. A minimum of eight trees per acre will be left after harvest as leave trees. Most trees were marked as clumps. Clumped trees total approximately 2 acres. Scattered trees were marked with blue paint and clumped trees were marked with pink flagging. Leave trees were clumped along type 5 streams and headwall areas. Trees with broken or deformed tops were chosen as leave trees to increase chance of wildlife use and future snag recruitment.

c. List threatened or endangered *plant* species known to be on or near the site.

None found in database search.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Douglas-fir will be planted in the unit and will be allowed to regenerate naturally after harvest. RMZ's will preserve existing vegetation, snags and down woody debris. between sale area and the closest type 3 and 4 streams. A minimum of eight trees per acre will be retained onsite as leave trees and will mostly be clumped.

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☐eagle, ☒songbirds, ☐*pigeon*, ☐other:
mammals: ☒deer, ☒bear, ☒elk, ☐beaver, ☐other:
fish: ☐bass, ☒salmon, ☐trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐*talus slopes*, ☐*caves*, ☐*cliffs*, ☐*oak woodlands*, ☐*balds*, ☐*mineral springs*

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species).*

This proposal is located within the overlay of potential Bull Trout habitat. This proposal's protection of fish bearing streams is designed to protect any potential bull trout habitat present. Bull Trout and Winter Steelhead habitat is protected under the Department of Natural Resources HCP's Riparian Strategies.

c. Is the site part of a migration route? If so, explain.
☒*Pacific flyway* ☐*Other migration route:* *Explain if any boxes checked:*

This proposal is located in the Chehalis River flyway, which is a part of the Pacific flyway. The area for this proposal is not generally the type of area used for resting or feeding by migratory waterfowl. While migrating through Pacific Northwest Forests, many neotropical migratory birds are closely associated with riparian areas, cliffs, snags, and structurally unique trees. Riparian areas and special habitats are protected through implementation of DNR's habitat Conservation Plan.

d. Proposed measures to preserve or enhance wildlife, if any:

1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.
Species /Habitat: **Riparian dependent species.** Protection Measures: **DNR's HCP Riparian Forest Restoration Strategy directs the department to implement variable buffer widths. RMZ buffers for this proposal average 195 feet wide along three type 3 streams and a minimum 100-foot wide along one type 4 stream. These buffers provide shade, maintain stream temperature, reduce potential sediment delivery, and deliver large woody debris. Under the HCP, these measures are deemed to provide adequate protection for forestry activities in potential riparian habitat. Wind buffer is not necessary as the sale is within a wind protected area and leeward facing slope.**

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

None.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Minimal amounts of oil and other lubricants may accidentally discharge during heavy machinery operation. There is some risk of fire if operations occur during dry times of the year.

1) Describe special emergency services that might be required.

There are no special emergency services required at this time. Pump trucks and/or pump trailers will be required on site during fire season. In the event of a lubricant spill, the Purchaser shall contact the DNR and the Department of Ecology, begin immediate containment, and clean up of the spill.

2) Proposed measures to reduce or control environmental health hazards, if any:

No oil or lubricants will be disposed of on site. The cessation of operations may occur during periods of time when the risk of fire may increase. Fire tools and equipment will be kept on site during fire season.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

Minimal noise leavels associated with logging operations and truck traffic will be created with the project no longer than a two year period. No long term impacts.

3) Proposed measures to reduce or control noise impacts, if any:

None.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*

Timber production and forest management activities.

b. Has the site been used for agriculture? If so, describe.

No.

c. Describe any structures on the site.

None.

d. Will any structures be demolished? If so, what?

None.

e. What is the current zoning classification of the site?

The current zoning for the site is Non-Commercial Forest.

f. What is the current comprehensive plan designation of the site?

Resource land.

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No.

i. Approximately how many people would reside or work in the completed project?

None.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The Jive timber sale proposal has been laid out in accordance with the Final HCP (September 1997), the Policy for Sustainable Forest Procedures (December 2006) and current Forest Practices rules as they apply in conjunction with current land use classifications.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any:

None.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

Does not apply.

b. What views in the immediate vicinity would be altered or obstructed?

None.

1) Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?
☒*No* ☐*Yes, viewing location:*

2) Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?
☒*No* ☐*Yes, scenic corridor name:*

3) How will this proposal affect any views described in 1) or 2) above?

The timber harvest proposal may alter the middle ground to background view of the forest structure. However, it is consistent with other past and recent forest practice activities in this area and should blend in with the overall view.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Retention tree clumps and individually scattered trees remaining following the proposed harvest will reduce the visual impacts of the harvest. Riparian Management Zones averaging 195 feet wide along three type 3 streams, 100-feet wide along one type 4 stream will be left after harvest. The site will be replanted after harvest activities.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Dispersed informal recreation in the form of hunting, berry picking, sightseeing, etc.

b. Would the proposed project displace any existing recreational uses? If so, describe:

Recreation will be temporarily displaced during logging operations on the timber harvest area.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None.

13. **Historic and Cultural Preservation**

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

The Special Concerns Database indicated cultural resources near the proposal. This is approximately ¼ mile away and will not be affected by the sale.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

The 1938 USGS depicts the presence of an old railroad grade. This grade has been surveyed during a previous sale and is not on site of the proposal.

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

No measures necessary. In the event that any unknown archaeological resources are encountered, ground disturbing activities will be halted, and the DNR's Archaeologist will be contacted to survey the site, and develop a Site Protection Plan.

14. **Transportation**

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

This proposal will use forest roads that are accessed from Cooks Hill Road.

1) Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)? **No.**

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No.

c. How many parking spaces would the completed project have? How many would the project eliminate?

None.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

New forest roads will be constructed as part of this proposal. See A.11.c.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?

This proposal should not affect the overall transportation system in the area.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

15 to 20 trips per day could occur during road building and logging operations. After cessation of logging actives, occasional vehicular trips will be needed to the site for future forest management purposes.

g. Proposed measures to reduce or control transportation impacts, if any:

None.

15. **Public Services**

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. **Utilities**

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None.

C. **SIGNATURE**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

for Prod. Sales Forester 11/18/09

Completed by: Joshua Watten — Forester 1 (Title) — Date: July 29, 2009

Reviewed by: Marcus A. Johns — Prod. Sales Mgr. (Title) — Date: 11/20/09